REMARKS

It is believed that the above amendments and these remarks attend to all rejections and objections presented in the pending June 3, 2003 office action. It is acknowledged that claims 3-4, 11-15 and 20 are restricted pursuant to this office action; Applicants may file a divisional application for these claims.

ELECTION /RESTRICTION

FIG. 4 is amended to show cross-hatching on spring element 60, to "show" the material of spring element 60.

CLAIM REJECTIONS UNDER 35 USC §§ 103, 102(B)

Claims 1, 2, 5, 7, 8, 9, 10, 16-19 stand rejected as being anticipated by U.S. Patent No. 4,226,281 ("Chu"). Claim 6 stands rejected as being obvious in view of Chu. Claims 1, 2, 5, 7-8, 16-18 are hereby canceled. Remaining claims 6, 9, 10 and 19 are rewritten in independent form such that: claim 6 incorporates base claim 1 and features of claim 6; claim 9 incorporates base claim 1 and features of claim 9; claim 10 incorporates base claim 1 and features of claim 10; and claim 19 incorporates base claim 17 and features of claim 17.

Applicants contend that Chu does not render claim 6 obvious, nor does Chu anticipate claims 9, 10 and 19. With regard to claim 6, Chu does not render claim 6 *prima facie* obvious. The following is a quotation of from the MPEP setting forth the three basic criteria that must be met to establish a *prima facie* case of obviousness:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP, §2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Among other reasons, Chu does not teach each and every feature of claim 6. Amended claim 6 requires the following elements in a thermal transfer interface:

(A) a thermal spreader forming a plurality of passageways;

(B) a spring element coupled with the spreader; and

(C) a plurality of thermally conductive pins for the passageways, each of the pins having a head and a shaft moving with the spring element, at least part of the shaft being internal to the passageway and forming a gap with an internal surface of the passageway, wherein the pin heads collectively and macroscopically conform to an object coupled thereto to transfer heat from the object to the spreader through the passageway gap formed between the spreader and each of the plurality of pins, each of the pin shafts being substantially rectangular, each of the passageways being substantially perpendicular to a planar surface of the spring element and being substantially rectangular to accommodate motion of the shafts therethrough.

We agree with the Examiner that Chu does not teach rectangular pins; however, neither does the prior art. We do not agree that one skilled in the art would have preconceived expectations about Applicants' invention of claim 1 versus claim 6. We further ask for evidence available in the prior art that would suggest modification of Chu to render the rectangular pins of Applicants' claim 6. Chu also does not provide such a suggestion. A rectangular cross-sectional shape changes the thermal transfer function through the interface, as compared to cylindrical pins. Since rectangular pins are not taught, suggested, nor motivated by the prior art, reconsideration and allowance of claim 6 is requested.

To anticipate a claim, the reference must teach every element of the claim and "the identical invention must be shown in as complete detail as contained in the ... claim." *MPEP 2131* citing *Verdegaal Bros. V. Union Oil Co. of California,* 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987) and *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989).

Chu does not teach every element of amended claims 9, 10 and 19.

Amended claim 9 requires the following elements in a thermal transfer interface:

(A) a thermal spreader forming a plurality of passageways;

(B) a spring element coupled with the spreader and comprising a thermally conductive sponge-like material; and

(C) a plurality of thermally conductive pins for the passageways, each of the pins having a head and a shaft moving with the spring element, at least part of the shaft being internal to the passageway and forming a gap with an internal surface of the passageway, wherein the pin heads collectively and macroscopically conform to an object coupled thereto to transfer heat from the object to the spreader through the passageway gap formed between the spreader and each of the plurality of pins.

Chu does not teach a thermally conductive sponge-like material. In fact, Chu teaches away from claim 9 by teaching a resilient material 36 (Chu, FIG. 6) disposed between a housing 18 and the back of header 25, where the resilient material is "rubber of similar material" (Chu, col. 4, lines 3-20). A rubber material is not thermally conductive, as claimed by Applicants in claim 9. A thermally conductive material permits more efficient heat transfer through the interface as compared to Chu's non-thermally conductive material. Reconsideration and allowance of claim 9 is requested.

Amended claim 10 requires the following elements in a thermal transfer interface:

(A) a thermal spreader forming a plurality of passageways;

(B) a spring element coupled with the spreader; and

(C) a plurality of thermally conductive pins for the passageways, each of the pins having a head and a shaft moving with the spring element, at least part of the shaft being internal to the passageway and forming a gap with an internal surface of the passageway, wherein the pin heads collectively and macroscopically conform to an object coupled thereto to transfer heat from the object to the spreader through the passageway gap formed between the spreader and each of the plurality of pins, wherein one or both of the pins and the spreader form a heat sink.

Chu does not teach a thermal transfer interface where the pins and/or spreader form a heat sink. Chu specifically teaches a separate heat sink (with a first cross-

hatching in Chu, FIG. 1) coupled to a housing 18 (with a second cross-hatching in Chu, FIG. 1). Accordingly, Chu teaches an additional mechanical interface coupling between the housing and the heat sink, whereas Applicants' claim 10 has no such additional interface coupling. Reconsideration and allowance of claim 10 is requested.

Amended claim 19 requires the following step elements:

(A) biasing a plurality of pins against a surface of the object so that the plurality of pins contact with, and substantially conform to, a macroscopic surface of the object, the step of biasing comprising biasing a plurality of pin heads against the object, the step of biasing and further comprising utilizing a thermally conductive sponge material coupled between the spreader and the pin heads; and

(B) communicating thermal energy from the object through the pins to a thermal spreader forming a plurality of air gaps with the plurality of pins.

We have already argued that Chu does not teach or suggest a thermally conductive sponge-like material, and instead teaches away from its use (see Chu, col. 4, lines 3-20). Chu does not therefore anticipate claim 19, and reconsideration and allowance are requested.

The cancellation of claims and the rewriting of claims 6, 9, 10, 19 has resulted in an additional independent claim; $84 is paid herewith to attend to the fee associated with the additional independent claim. It is believed that no fees are due in connection with this amendment. If any additional fee is due, please charge Deposit Account No. 08-2025.

By _____

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FIG. 3

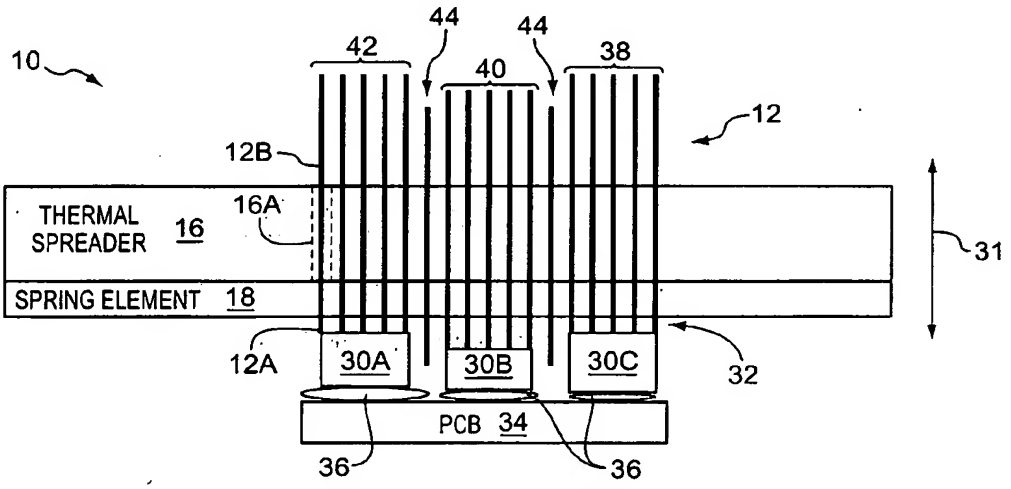

FIG. 4